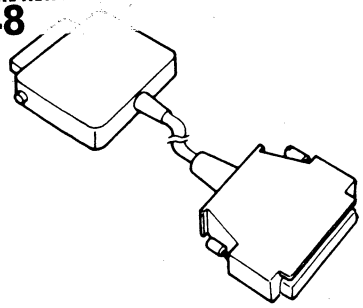
OZ–890
IQ–890

SHARP SERVICE MANUAL

V02748

CODE: 00ZOZ890SM//E



OZ-890
MODEL IQ-890

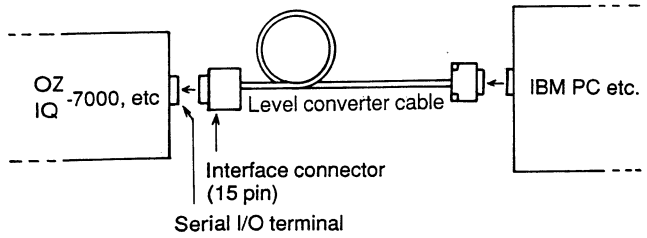
Organizer Link II

<Introduction>

OZ/IQ-870 includes the following items:
Floppy disks in 3.5" and 5.25" format sizes, labeled "Organizer Link II."
A cable with a thin, 15-pin interface connector on one side and a thicker, 25-pin RS232C connector on the second side.

NOTE: DO NOT USE ANY CABLE OTHER THAN ONE PROVIDED BY SHARP FOR ORGANIZER DATA TRANSFER.

The cable is a level converter which converts the level of serial interface signals of the OZ/IQ-7000 or other electric organizer into the level conforming to the EIA RS-232C standards.



Specifications

Product name : RS-232C level converter

Applicable standard : EIA RS-232C

Connectors used : 15-pin male connector for connection with the Organizer, etc.
25 pin female connector, DB-25W, for connection with a personal computer

Input/Output Signals:

	Input/Output Signals[1] 15-pin Terminal	Input Signals[2] 25-pin Terminal	Output Signals 25-pin Terminal
High	+4.5 to +5.5V (CMOS level)	+7 to +15V	+5 to +10V (3 to 7 KOhms load)
Low	0 to +0.4V (CMOS level)	–7 to –15V	–5 to –10V (3 to 7 KOhms load)

1. Each output is capable of driving one C-MOS load.
2. The level converter operates on input voltage received through the 25-pin terminal.

Cable length: Approx. 1.5 m (4' 11-1/16")
Weight: Approx. 140 g (0.31 lb.)
Accessories: Connector covers (2; RS-232C terminal and 15-pin interface connector)

Main fanctions

Organizer Link II (OL2) lets you integrate your desktop PC applications with SHARP's entire line of Organizer pocket computers.
OL2 lets you transfer data back and forth between your Organizer and PC ··· and much more. With OL2, you can:

Archive and restore your Organizer data files.

Upload your data files to OL2's various editors and viewers and download your changes back to the Organizer.

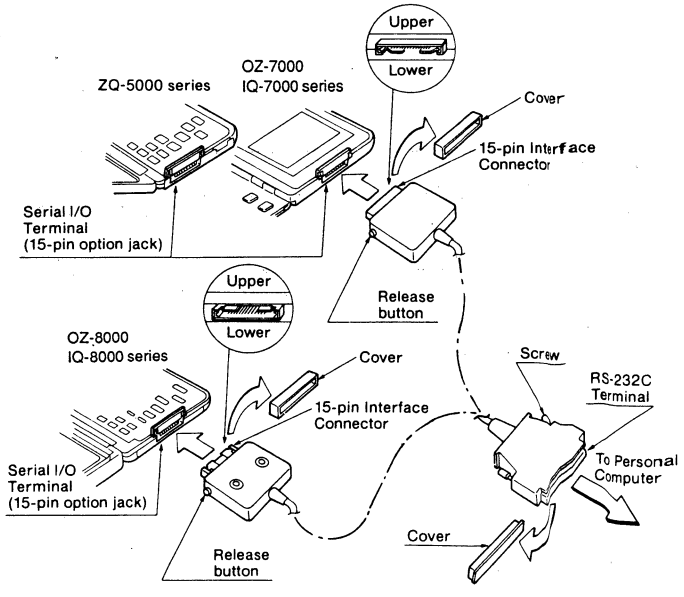
View, search, and edit your data on the PC as you would with the Organizer.

Generate a wide variety of reports for each application.

Export and import your Organizer files in formats compatible with the most popular PC desktop applications, including Lotus 1-2-3, Sidekick, dBase, and other common data base programs.

OL2 provides powerful features to the user new to the Organizer or PC, as well as to the advanced user.
New users will find that many OL2 operations are very similar to those you have become accustomed to on the Organizer. You will also find that many of the complexities that are traditionally associated with PC programs have been "hidden" in OL2. OL2 should make it easy for you to transfer and edit your information.
For the experienced Organizer user, OL2 provides a number of features that give you control of the Organizer's data.

Parts identification and connection



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The contents are subject to change without notice.

SHARP CORPORATION

Cable Installation Procedure

Remove the two protective covers on the cable that comes with OL2 before connection and replace them after disconnection.

1. Turn OFF the power to all devices to be connected.
2. Slide the protective covers on the Organizer (marked "Computer Link" on OZ/IQ-8000 series) to expose the 15 pin interface connector (Computer Link Port).
3. Connect the Computer Link Port on the Organizer to the cables flat 15 pin connector.

   Connect the RS-232C terminal to the RS-232C connector on the personal computer. (Secure the screws on the RS-232C terminal.)
4. Turn ON the power to all connected devices.

NOTE: WHEN CONNECTING OR DISCONNECTING THE LEVEL CONVERTER AND A DEVICE, MAKE SURE THE POWER TO ALL DEVICES IS OFF. IF THE POWER IS LEFT ON, THE ORGANIZER, THE PERSONAL COMPUTER, OR THE DEVICE MAY STOP FUNCTIONING. IF THIS SHOULD HAPPEN, REFER TO THE OPERATION MANUAL OF THE NONFUNCTIONING DEVICE.

WHEN NOT USING THE LEVEL CONVERTER, BE SURE TO DISCONNECT THE 15-PIN CONNECTOR FROM THE ORGANIZER. PRESS THE TWO RELEASE BUTTONS TO DISCONNECT THE 15-PIN INTERFACE CONNECTOR.

Contents of RS-232C signal

This set is designed for conforming to the EIA (Electronic Industry Association) standards.

(1) Electrical characteristics

① When I/O signal is below –3V, it is recognized as the mark state, and when it is above +3V, it is recognized as the space state.

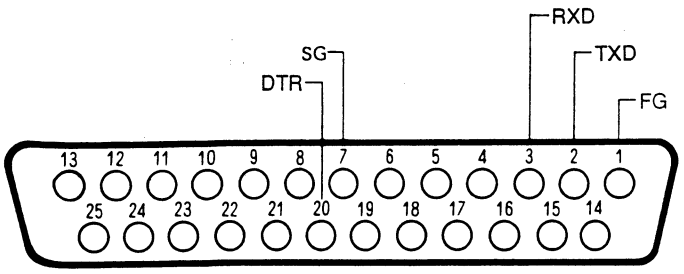
② The impedance in the load side should be an DC resistance of 3KΩ to 7KΩ for the applied voltage of 3 ~ 25V.

③ The output signal is at –5 to –15V in the mark state, and at +5 to +15V in the space state.

④ The effective load capacity at the terminal end should be 2500PF or less including the cable capacity.

(2) Connector signal

This set is equipped with DB-25(W) as the connector for RS-232C.



Connector signal (DB-25(W))
The I/O terminal levels of 25-pin connector DB-25(W) are as follows:

Input level:	High +3 ~ +15V Low –3 ~ –15V
Output signal:	High +5 ~ +10V Low –5 ~ –10V

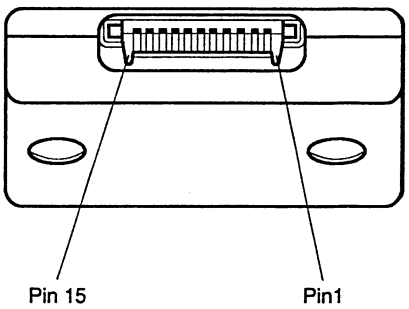
The output signal levels are for load of 3 ~ 7KΩ and cable length of 1m. When the load is outside the above range, the use of longer cable or greater capacity may result in deviation from the above conditions.

Pin arrangement

Pin No.	Signal name	Code	Signal direction viewed from the set	Outline of function
1	Frame GND	FG		GND for maintenance
2	Send data	TXD	Input	Data sent from the PC.
3	Receive data	RXD	Output	Data received by the PC.
7	Signal GND	SG		The reference voltage for I/O devices
20	Data set ready	DTR	Input	Always maintained at High level.

Signals used in the serial I/O terminal

The set is equipped with a 15-pin interface connector (serial I/O terminal), used for connecting to the Organizer.
The pins used and their signals are described below.



Pin arrangement

Pin No.	Signal name	Code	Signal direction viewed from the set	Outline of function
1	Frame GND	FG		GND for maintenance
2	Send data	SD	Input	Input signal from the electronic organizer
3	Receive data	RD	Output	Output signal to the electronic organizer
7	Signal GND	SG		The reference voltage for I/O devices.
10		Vcc		Power voltage of the electronic organizer.

Note) 1. High level means the voltage level of Vcc (+4.5V to +5.5V), and Low level means the voltage level of SG (0 to +0.4V).

2. Since C-MOS parts are used in the set, application of a voltage which exceeds the allowable range (voltage between SG and Vcc) to the set may break the set.

(3) Circuit descriptions

The cable operates on the power supplied from the signal line of a personal computer.

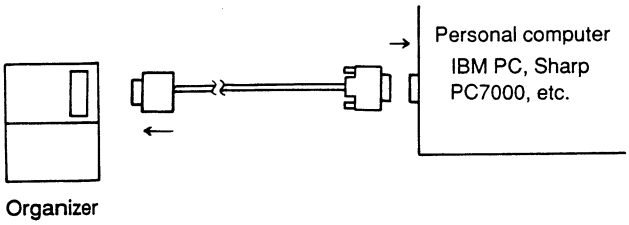
i) The positive potential of the power of the circuit is taken from the DTR and is applied to VDD of the IC1 (MC145406). The DTR voltage is dropped to 5V by the regulator to be used as the power for the IC1 receiver. The DTR signal is fixed to High (about 7 to 9V) by the software of the PC link.

ii) The negative potential of the power of the circuit is taken from the TXD. Though the TXD is normally at Low (about –9 to –7V), it occasionally becomes High during transmission depending on the bit composition of the data. Therefore it is rectified by D1 and smoothed by C3.

iii) The High level of the RD signal at 15 pin connector is about +4.5 to +5.5V. If the battery voltage of the electronic organizer falls below that level, it is clamped by D3 to protect the internal IC's. R1 is used for limiting a current in this case.

Operation check

1. Connection



2. Operating procedure

① Connect the connectors as shown in the above figure.

② Boost the PC LINK software with the personal computer.

③ Set the OZ/IQ-7000 to the PC LINK mode.

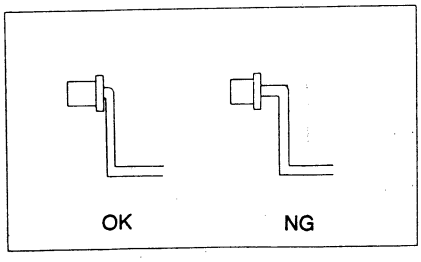
④ Perform communication.

⑤ Check that there is no error indication for either of RECEIVE or SEND and that the communication is made properly.

Note for assembly

1. Lock release button attachment

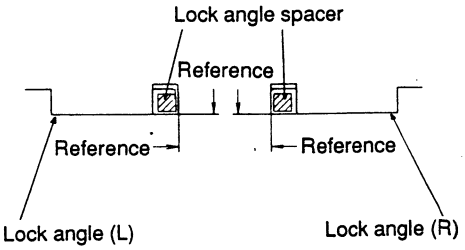
Insert scurely.



2. Spring attachment

Hook the spring securely on cabinet B and the lock angle pawl.

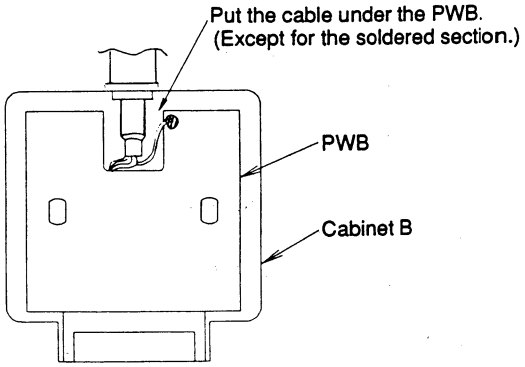
3. Lock angle spacer attachment



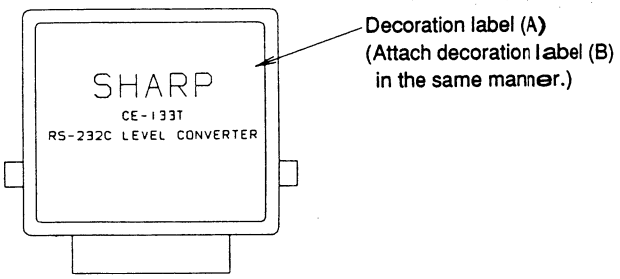
Attach the lock angle spacer to the reference side as far as possible, as shown in the above figure. Press it firmly to assure attachment. (Do not allow the spacer to exceed from the angle.)

4. Cable treatment

Put the cables between cabinet B and the PWB.

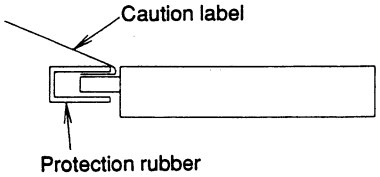


5. Decoration label attachment



- Attach decoration labels in the concave section of the cabinet without covering a corner.

6. Caution label attachment



As shown above, put the caution label in the protection rubber (15 pin).

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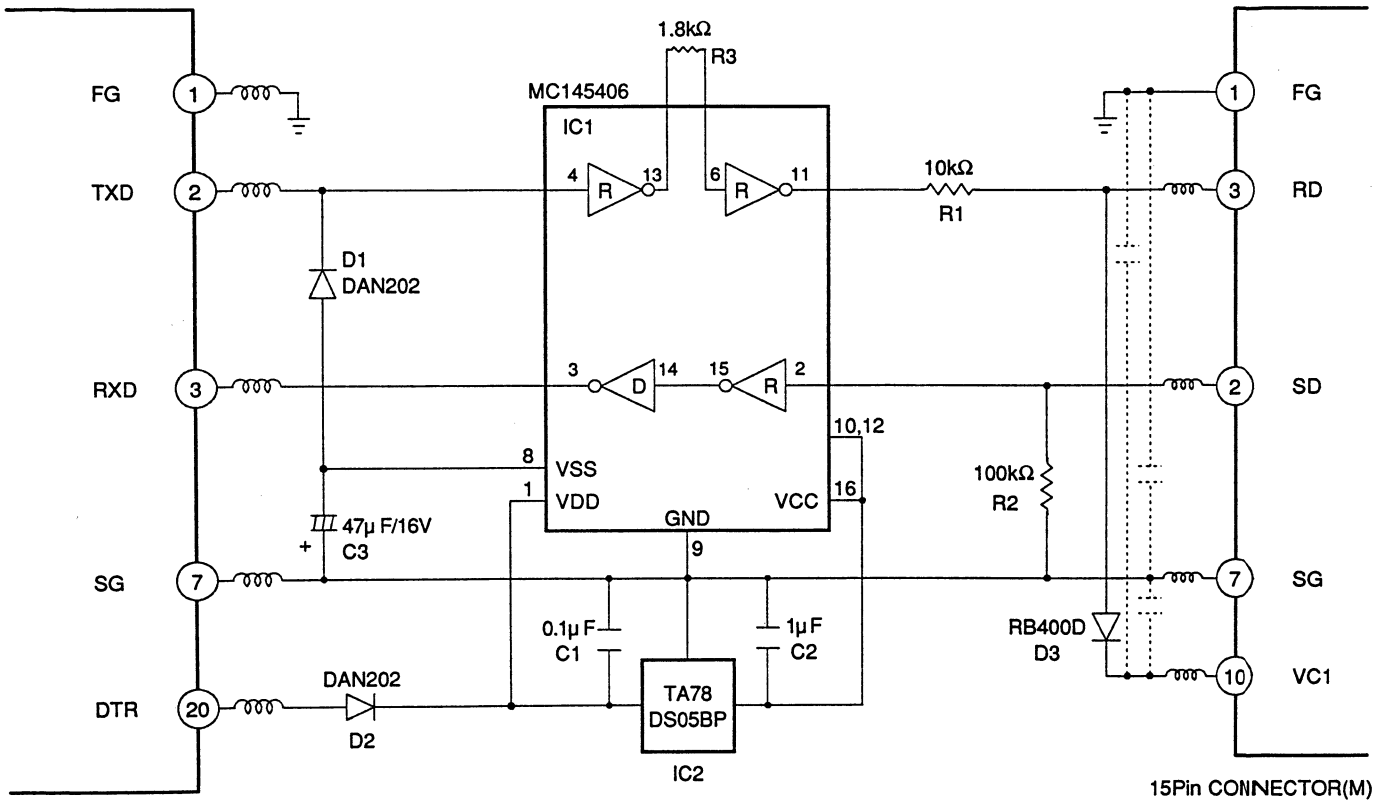
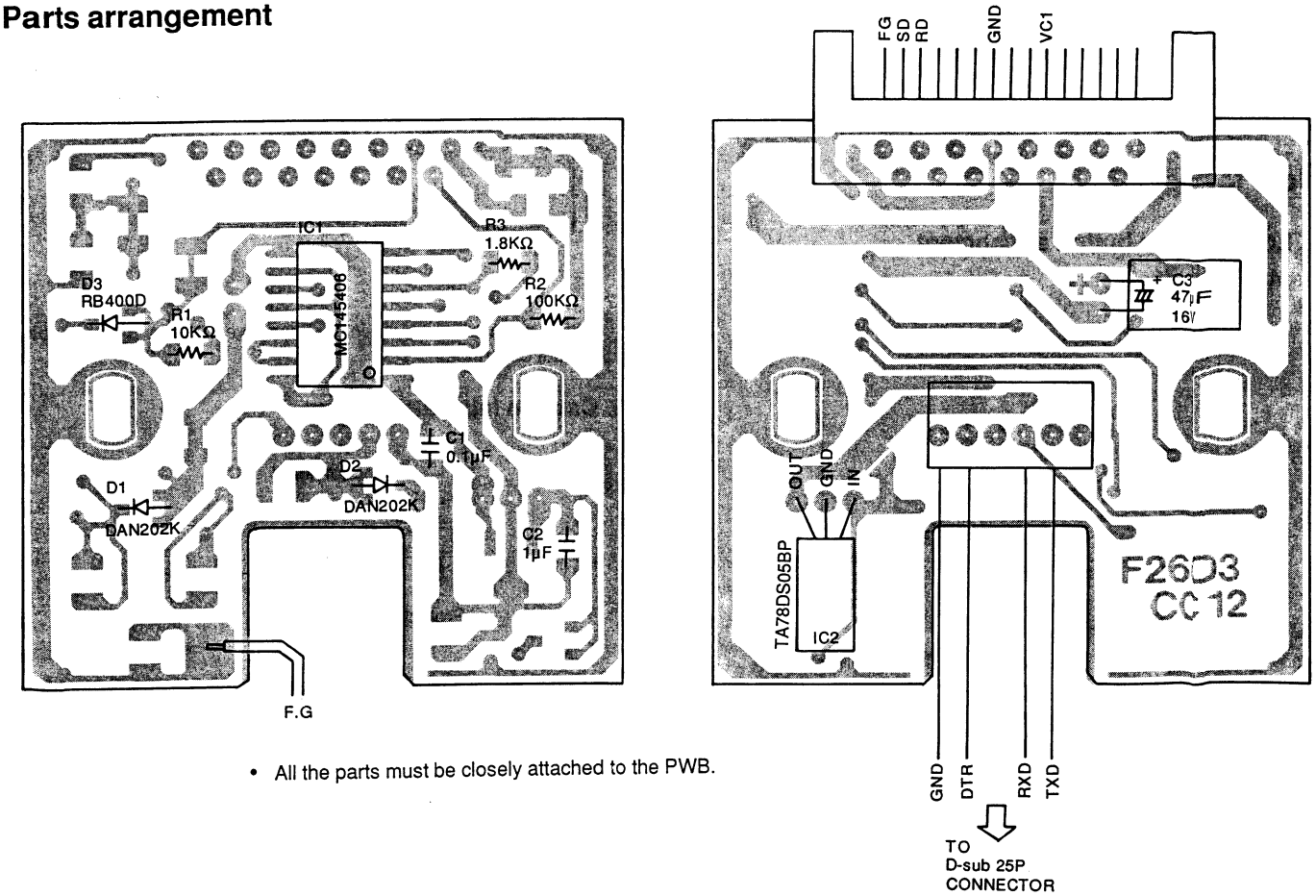
Circuit diagram



- Only the patterns of the capacitors with dotted lines are considered.
- Only the patterns of the coils are considered.(Shorted on the pattern.)

Parts arrangement



- All the parts must be closely attached to the PWB.

Parts list & guide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	TLABM2931CCZZ	AC		D	Decoration label(B)
2	GCABA2988CCZZ	AQ		D	Bottom cabinet
3	VCEAGU1CW476M	AB		C	Capacitor (16WV 47μF) [C3]
4	VHiTA78DS05BP	AG		B	IC (TA78DS05BP) [IC2]
5	QCNCM1367CC1E	AK		C	Connector (15pin)
6	DUNTK286DCCZZ	AW	N	E	PWB unit (Includes №3~5,101~108)
7	MSPRC1358CCZZ	AA		C	Spring for fixing angle
8	JKNBZ2078CCZZ	AB		C	Release knob for fixing angle
9	LANGA1641CCZZ	AC		C	Fixing angle L
10	PSPAP1370CCZZ	AA		C	Spacer for lock angle
11	LANGA1640CCZZ	AC		C	Fixing angle R
12	QCNW-1398CCZZ	AZ		B	Cable (25P)
13	PHŌG-1097CCZZ	AC		C	Protect cover
14	GCABB2987CCZZ	AQ		D	Top cabinet
15	XBBSF20P10000	AA		C	Screw (2×10)
16	TLABZ2932CCZZ	AB		D	Decoration label(B)
17	PHŌG-1093CCZZ	AB		C	Rubber cap for 11pin connector cable
101	RC-CZD105ECZZ	AC		C	Capacitor (1μF) [C2]
102	RH-DZ1001ECZZ	AD		B	Diode (1SR148 or RB400D) [D3]
103	VCKYTP1EF104Z	AA		C	Capacitor (25WV 0.10μF) [C1]
104	VHDDAN202K/-1	AB		B	Diode (DAN202K) [D1,2]
105	VHiMC145406F1	AL		B	IC (MC145406F) [IC1]
106	VRS-TP2BD103J	AA		C	Resistor (1/8W 10KΩ ±5%) [R1]
107	VRS-TP2BD104J	AA		C	Resistor (1/8W 100KΩ ±5%) [R2]
108	VRS-TP2BD182J	AA		C	Resistor (1/8W 1.8KΩ ±5%) [R3]
201	TiNSE5491CCZZ	AK	N	D	Instruction book (for U.S.A.)
	TiNSF5486CCZZ	AK	N	D	Instruction book (for Canada)
	TiNSE5485CCZZ	AK	N	D	Instruction book (except for U.S.A.)
202	TCAUK1198CCZZ	AA		C	Caution card for 11pin connector rubber cap
203	UBNDA1008CCZZ	AA		C	AC cord band (120mm)
204	SPAKA010DCCZZ	AB		D	Packing cushion
205	SPAKA519DCCZZ	AB		D	Packing cushion
206	SPAKC102ECCZZ	AK	N	D	Packing case (for U.S.A.)
	SPAKC105ECCZZ	AK	N	D	Packing case (for Canada)
	SPAKC109ECCZZ	AK	N	D	Packing case (except for U.S.A.,Canada)
207	SSAKA0302CCZZ	AA		D	Vinly bag (160×200mm)
208	SSAKA1130QCZZ	AA		D	Vinyl bag (100×120mm)
209	SSAKH1020CCN1	AA		D	Vinyl bag (120×220mm)